

Claims

1. An apparatus for communicating with a down hole device comprising:
 - an equipment associated with an oil rig for manipulating a perceptible physical parameter associated with a borehole;
 - 5 a user interface for generating a command; and
 - a processor for sending a command to the equipment for manipulating the physical parameter in accordance with a command understood by the down hole device.
2. The apparatus of claim 1, wherein the equipment comprises draw works.
- 10 3. The apparatus of claim 1, wherein the equipment comprises a top drive.
4. The apparatus of claim 1, wherein the equipment comprises a tracer injection system.
5. The apparatus of claim 1, wherein the equipment comprises a drilling mud pressure generator.
- 15 6. The apparatus of claim 1, wherein the equipment comprises an acoustic signal generator.
7. The apparatus of claim 2, wherein the physical parameter comprises weight on bit.
8. The apparatus of claim 3, wherein the physical parameter comprises rotation rate.
- 20 9. The apparatus of claim 4, wherein the physical parameter comprises tracer density.
10. The apparatus of claim 5, wherein the physical parameter comprises mud pressure.

11. The apparatus of claim 5, wherein the physical parameter comprises mud flow rate.
12. The apparatus of claim 1, further comprising:
 - a command generator for translating a human readable command into an equipment command.
13. The apparatus of claim 12, further comprising:
 - a system state for determining available influence command states for generating equipment commands.
14. The apparatus of claim 1, further comprising:
 - a console for dynamically changing system operating parameters.
15. A method for communicating with a down hole device comprising:
 - accepting a user input;
 - creating an equipment command based on the user input;
 - changing a physical influence comprising one or more primary physical influences associated with the borehole in accordance with the equipment command; and
 - commanding a down hole device based on changing the physical influence.
16. The method of claim 15, wherein the physical influence comprises weight on bit.
17. The method of claim 15, wherein the equipment comprises rotation speed.
18. The method of claim 15, wherein the physical influence comprises tracer density.
19. The method of claim 15, wherein the physical influence comprises mud flow rate.
20. The method of claim 15, wherein the physical influence comprises mud pressure.

21. The method of claim 15, wherein the physical influence comprises generating an acoustic signal.
22. The method of claim 15, further comprising:
 - 5 entering user equipment commands in human perceptible form; and translating the user equipment commands into equipment detectable influences.
23. The method of claim 15, further comprising:
 - determining from a system state, available influence command states for generating equipment commands.
24. The method of claim 15, further comprising:
 - 10 intercepting an existing control signals and superimposing a command on the existing control signals to communicate a command to a down hole device.
25. The method of claim 15, further comprising:
 - dynamically changing a system configuration parameter.
26. A computer readable medium containing executable instruction that when
 - 15 executed by a computer perform a method for communicating with a down hole device comprising:
 - accepting a user input;
 - creating an equipment command based on the user input;
 - manipulating a physical influence comprising one or more primary physical influences associated with the borehole in accordance with the equipment command; and
 - 20 commanding a down hole device based on the manipulation in the physical influence.

27. The medium of claim 26, wherein the physical influence comprises weight on bit.

28. The medium of claim 26, wherein the equipment comprises rotation speed.

29. The medium of claim 26, wherein the physical influence comprises tracer density.

30. The medium of claim 26, wherein the physical influence comprises mud pressure.

5 31. The medium of claim 26, wherein the physical influence comprises mud flow rate.

32. The medium of claim 26 wherein the physical influence comprises generating an acoustic signal.

33. The medium of claim 26, further comprising:

entering user equipment commands in human perceptible form; and

10 translating the user equipment commands into equipment detectable influences.

34. The medium of claim 26, further comprising:

determining from a system state, available influence command states for generating equipment commands.

35. The medium of claim 26, further comprising:

15 intercepting an existing control signals and superimposing a command on the existing control signals to communicate a command to a down hole device.

36. The medium of claim 26, further comprising:

dynamically changing a system configuration parameter.

20